

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A method for determining the key of an audio signal, the method comprising the steps of:

■ for each of a plurality of signal portions of the audio signal, ~~analysing~~ analyzing the signal portion to identify a musical note, and where at least one musical note is identified:

⊗ _____determining a strength associated with the or each musical note; and

⊗ _____generating a data record containing the identity of the or each musical note, the strength associated with the or each musical note and the identity of the portion;

■ for each of the data records, ignoring the strength associated with an identified musical note where said strength is less than a predetermined fraction of the maximum strength associated with any identified musical note contained within the data records;

■ determining a first note from the identified musical notes as a function of their respective strengths;

■ selecting at least a second and a third note from the identified musical notes as a function of the first note; and

■ determining the key based on a comparison of the respective strengths of the at least second and third notes.

2. (Currently Amended) ~~A-The~~ method as claimed in Claim 1, wherein each signal portion is the same size.

3. (Currently Amended) ~~A-The~~ method as claimed in Claim 1, wherein each signal portion encompasses the same length of time.

4. (Currently Amended) ~~A-The~~ method as claimed in Claim 1, wherein the size of the signal portion is a function of the tempo of the audio signal.

5. (Currently Amended) ~~A-The~~ method as claimed in claim 1, wherein the signal portions are contiguous.

6. (Currently Amended) ~~A-The~~ method as claimed in claim1, wherein the predetermined fraction is determined in dependence on the content of the audio signal.

7. (Currently Amended) ~~A-The~~ method as claimed in claim 1, wherein the predetermined fraction lies in the range of one tenth to one half.

8. (Currently Amended) ~~A-The~~ method as claimed in Claim 7, wherein the predetermined fraction is one seventh.

9. (Currently Amended) ~~A--The~~ method as claimed in claim 1, wherein the step of ~~analysing~~analyzing the signal portion to identify a musical note comprises the steps of:

5 ⊖ converting the signal portion to a frequency domain representation;

 ⊖ subdividing the frequency domain representation into a plurality of octaves;

 ⊖ for each octave containing a maximum amplitude:

10 ■ _____determining a frequency value at the maximum amplitude; and

 ■ _____selecting a note name of a musical scale in dependence on the frequency value; and

 ⊖ identifying a musical note in dependence on the same note name being selected in more than one octave.

10. (Currently Amended) ~~A--The~~ method as claimed in Claim 9, wherein the conversion of the signal portion to a frequency domain representation is performed by means of a Fourier Transform.

11. (Currently Amended) ~~A--The~~ method as claimed in Claim 9, wherein the musical scale is the Equal Tempered Scale.

12. (Currently Amended) ~~A--The~~ method as claimed in claim 1, wherein the step of determining a strength associated with the or each musical note comprises the steps of:

5 | ■ determining the amplitude of each frequency component of
the musical note; and

| ■ summing the amplitudes.

13. (Currently Amended) ~~A-The~~ method as claimed in claim 1,
wherein the step of determining the first note comprises the steps
of:

5 | ■ for each identified musical note, summing the strengths
associated with the musical note in the data records; and

| ■ determining the first note to be the identified musical
note with the maximum summed strength.

14. (Currently Amended) ~~A-The~~ method as claimed in claim 1,
wherein the first note is the tonic of the key.

15. (Currently Amended) An apparatus for determining the key of
an audio signal, the apparatus comprising:

5 | ■ an input device ~~operable to receive~~for receiving a-an
audio signal;

| ■ a data processing apparatus ~~operable to~~
~~for~~for analyzing each of a plurality of signal portions,
~~analyse the portion of the audio signal~~ to identify a musical note,
and where at least one musical note is identified, said data
processing apparatus:

10 | ~~■~~ determine-determines a strength associated with the or
each musical note; and

| ~~■~~ generate-generates a data record containing the identity
of the or each musical note, the strength associated with the or
each musical note and the identity of the portion;

15 | ~~○~~ said data processing apparatus, for each of the data
records, ~~ignore-ignoring~~ the strength associated with an identified
musical note where said strength is less than a predetermined
fraction of the maximum strength associated with any identified
musical note contained within the data records;

20 | ~~○~~ determine-determining a first note from the identified
musical notes as a function of their respective strengths;

| ~~○~~ select-selecting at least a second and a third note from
the identified musical notes as a function of the first note; and

| ~~○~~ determine-determining the key based on a comparison of the
25 | respective strengths of the at least second and third notes.

| 16. (Currently Amended) ~~An-The~~ apparatus as claimed in Claim
15, wherein the predetermined fraction is determined in dependence
on the content of the audio signal.

| 17. (Currently Amended) ~~An-The~~ apparatus as claimed in Claim
16, wherein the predetermined fraction lies in the range of one
tenth to one half.

18. (Currently Amended) ~~An~~The apparatus as claimed in Claim 17, wherein the predetermined fraction is one seventh.

19. (Currently Amended) ~~An~~The apparatus as claimed in claim 15, wherein for each of a plurality of signal portions, ~~to analyse~~in analyzing the portion to identify a musical note, the data processing apparatus ~~is operable to:~~

5 ■ ~~convert~~converts the portion to a frequency domain representation;

■ ~~subdivide~~subdivides the frequency domain representation into a plurality of octaves;

■ for each octave containing a maximum amplitude:

10 ■ ~~determine~~determines a frequency value at the maximum amplitude; and

■ ~~select~~selects a note name of a musical scale in dependence on the frequency value;

and

15 ■ ~~identify~~identifies a musical note in dependence on the same note name being selected in more than one octave.

20. (Currently Amended) ~~An~~The apparatus as claimed in Claim 19, wherein the data processing apparatus ~~is operable to~~ ~~convert~~converts the portion to a frequency domain representation by performing a Fourier Transform.

21. (Currently Amended) ~~An~~The apparatus as claimed in Claim 19, wherein the musical scale is the Equal Tempered Scale.

22. (Currently Amended) ~~An~~The apparatus as claimed in claim 15, wherein to determine a strength associated with the or each musical note, the data processing apparatus ~~is operable to:~~

■ ~~determine~~determines the amplitude of each frequency component of the musical note; and

■ forms a sum of the amplitudes.

23. (Currently Amended) ~~An~~The apparatus as claimed in claim 15, wherein to determine the first note, the data processing apparatus ~~is operable to:~~

■ for each identified musical note, forms a sum of the strengths associated with the musical note in the data records; and

■ ~~determine~~determines the first note to be the identified musical note with the maximum summed strength.

24. (Currently Amended) ~~An~~The apparatus as claimed in claim 15, wherein said apparatus further comprising comprises an output device ~~operable to send~~for sending data corresponding to the key of the audio signal.

25. (Currently Amended) A record carrier comprising software
~~operable for causing a processor to carry out the method of as~~
~~claimed in claim 1.~~

26-29. (Cancelled).